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Blood transfusions

Some people with lymphoma develop low blood cell counts. If this happens to you, you might need a blood transfusion.

On this page

We have separate information about the topics in **bold font**. Please get in touch if you'd like to request copies or if you would like further information about any aspect of lymphoma. Phone 0808 808 5555 or email information@lymphoma-action.org.uk.

What is a blood transfusion?

A blood transfusion is when you receive blood or blood products from someone else (a donor). The blood is given to you through a drip into one of your veins.

There are three main types of blood transfusion:

- **Red blood cell transfusions.** Red blood cells carry oxygen around your body. You might need a red blood cell transfusion if the number of red cells in your blood is very low (anaemia). This is the most common type of blood transfusion.

- **Platelet transfusions.** Platelets are cell fragments that help your blood to clot. This clotting prevents bruising and bleeding. You might have a platelet transfusion to treat bleeding or to reduce your risk of bleeding if you have a low platelet count (**thrombocytopenia**).
- **Plasma transfusions.** Plasma is the liquid part of your blood. It contains nutrients, proteins and salts, including proteins that help your blood to clot ('clotting factors'). When it is collected for a transfusion, it is frozen straightaway and thawed just before it's needed. This is called 'fresh frozen plasma' or FFP. It is usually given to people who have severe bleeding or blood clotting problems.

Individual components of blood, such as albumin (a protein) or specific clotting factors can also be given by transfusion.

Why might someone with lymphoma need a blood transfusion?

Lymphoma and some treatments for lymphoma can cause low blood counts. There are two main reasons for this:

- Lymphoma cells can sometimes build up in the part of your bones where blood cells are made (**bone marrow**). The lymphoma cells take up space that is normally used to make healthy blood cells. If this happens, it lowers the number of blood cells your bone marrow can make, leading to low blood counts.
- Treatments for lymphoma aim to get rid of lymphoma cells. However, some healthy cells might also be destroyed as a side effect. This includes blood cells that are developing in your bone marrow. This can happen with many types of **chemotherapy**, some **antibody therapies** and **targeted drugs**, and **radiotherapy** to certain parts of your body.

If you have a low red blood cell count (**anaemia**) or a low platelet count (**thrombocytopenia**), you might need a red blood cell transfusion or a platelet transfusion to support your body until your blood counts recover. Anaemia that is caused by lymphoma or its treatment is not caused by a lack of nutrients, and therefore you are unlikely to be asked to take iron or vitamin supplements. Alternative treatment options are specific to the type of, and reason for, low blood counts.

You are unlikely to have a blood transfusion to treat a low neutrophil count (**neutropenia**). Neutrophil transfusions are very rare because **white blood cells** don't last well after they've been taken from a donor and may not be effective. They might be used occasionally to treat people with a very low neutrophil count who have a life-threatening infection.

Having a blood transfusion

Most people who need a blood transfusion have it as an outpatient. You do not usually have to stay in hospital overnight unless you are already an inpatient. It can take a few hours to have a transfusion. Take something to keep yourself occupied, such as a book, a tablet or some music to listen to.

Before a blood transfusion

Your medical team will tell you about the benefits and risks of having a blood transfusion and why they think it is appropriate for you. They should also tell you about any other treatment options, and answer any questions you have.

You have to agree (consent) to having a blood transfusion.

You have a **blood test** before your transfusion to check your blood group. This makes sure the donor blood is matched to the same blood group to lower your risk of having a bad reaction to it.

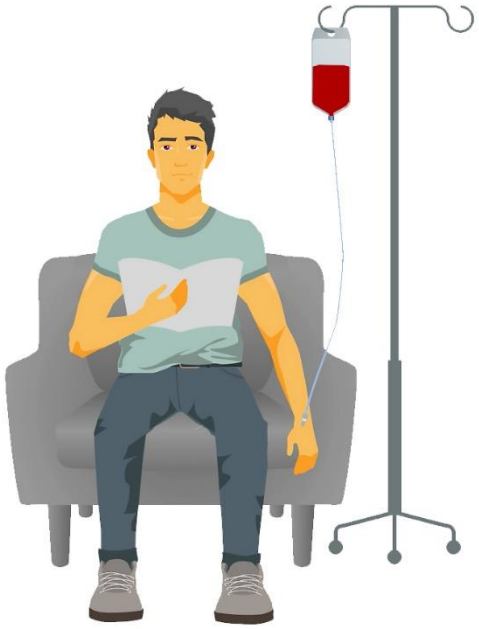
If you have a card or other information to say that you need a specific type of blood or that you need irradiated blood, tell your medical team.

During a blood transfusion

If you are anxious about any aspect of having a blood transfusion, tell your medical team. They might be able to suggest things to help (for example, making sure you can't see the bag containing the blood).

- You can sit in a chair or lie on a bed to have your blood transfusion.
- You wear a band with your name, date of birth and hospital number on it. Your nurse checks your full name and date of birth against the details on your band before starting the transfusion. This makes sure you get the correct blood.

- The nurse also checks your heart rate, blood pressure, breathing rate and temperature before you start the transfusion.
- The nurse puts a thin, plastic tube (cannula) into a vein, usually in your arm. If you have a **central line** fitted, you can have the transfusion through this instead.
- The nurse connects the cannula or line to a drip.
- You have your blood transfusion through the drip. Red blood cell transfusions usually take around 2 hours, although they can take up to 4 hours. Platelet transfusions usually take 30 to 60 minutes. If you need more than one bag, it will take longer.
- After about 15 minutes, the nurse checks your heart rate, blood pressure, breathing rate and temperature again.
- When the transfusion is finished, the nurse removes the cannula and applies a small dressing or plaster.



Having a blood transfusion

If you feel unwell during or shortly after having a blood transfusion, tell your medical team straightaway. They can stop the transfusion or give you treatment for your symptoms.

After a blood transfusion

About an hour after your transfusion, the nurse checks your heart rate, blood pressure, breathing rate and temperature again. If there are no problems and you feel well, you can go home. You might have a bruise where the cannula went in. The nurse should tell you about any **side effects** you should look out for and who to contact if you become unwell after you've left the hospital.

Seek advice if you experience any of the following within 24 hours of having a blood transfusion:

- feeling feverish or shivery
- a fast heart rate
- a rash, flushed skin or itching
- pain in your chest or back
- difficulty breathing
- feeling sick
- feeling generally unwell.

If you had a red blood cell transfusion to treat the **symptoms of anaemia**, you are likely to feel better quite quickly. Some people feel better straightaway, but it usually takes at least 24 hours to feel the full benefit. Red blood cells last a few weeks in your body. If your bone marrow still isn't working well after this time, you might get symptoms again.

Platelets also start working straightaway to reduce bleeding and bruising. The transfused platelets last around a week in your body. You are likely to have regular blood tests to make sure your platelet count is recovering.

You might need repeated transfusions to keep your red blood cell or platelet counts at a safe level.

You cannot donate blood in the future if you have had a blood transfusion.

Side effects of blood transfusions

Blood transfusions are common procedures and are generally very safe.

Most people do not feel anything when they are having a blood transfusion. Some people have a mild reaction to the transfusion and develop a fever (temperature above 38°C), chills or a rash. This doesn't usually last for very long. Stopping the transfusion for a short period or slowing it down usually helps. The nurse might give you paracetamol or an antihistamine to reduce any symptoms. More serious problems are very rare.

Where does the blood come from?

The blood and blood products used for transfusions come from volunteers who **give blood** (blood donors). After it is collected, the different parts of the donated blood are separated out. Each component is processed and stored until it's needed.

- Red blood cells must be refrigerated and last for around a month.
- Platelets are stored at room temperature and last for around 5 days.
- Plasma can be frozen for around 3 years.

There are lots of precautions in place to make blood transfusions as safe as possible for donors and the people who receive them.

Only people who fit **certain criteria** can give blood. Donors:

- must complete a medical questionnaire before giving blood, to make sure they are suitable
- can only give blood if their red blood cell count is high enough
- must not give blood more than once every 3 to 4 months.

Every blood donation is carefully screened for infections. The **white blood cells** are filtered out of the donated blood to lower the risk of infections and reactions. Plasma is treated to inactivate certain viruses.

Every blood donation is also tested to check the blood group. This means it can be matched to the recipient's blood group.

Irradiated blood

Some people affected by lymphoma might need 'irradiated' blood or blood products if they have a blood transfusion.

Irradiated blood is donor blood that has been treated with X-rays to inactivate any **white blood cells** that might be left after the blood has been filtered. Red blood cells and platelets are not affected.

Why is blood irradiated?

Irradiated blood is used to prevent a very rare but serious complication of blood transfusions called 'transfusion-associated graft-versus-host disease' (TA-GvHD). This is when donor white blood cells attack your own tissues.

Who needs irradiated blood?

Some people who have lymphoma are more at risk of developing TA-GvHD and should have irradiated blood products if they need a transfusion:

- People with **Hodgkin lymphoma** should have irradiated blood products for the rest of their lives.
- People who've been treated with certain **chemotherapy** drugs, including fludarabine, cladribine, bendamustine and pentostatin, should have irradiated blood products for the rest of their lives.
- People who have had a **self (autologous) stem cell transplant** should have irradiated blood products for 3 to 6 months after their transplant.
- People who have had a **donor (allogeneic) stem cell transplant** should have irradiated blood products for at least 6 months after their transplant, and longer if they have chronic graft-versus-host disease, are still taking drugs to dampen their immune system (immunosuppressants) or have a low lymphocyte count.
- People who have had **CAR-T cell therapy** should have irradiated blood products for at least 3 months after their treatment.
- People who've been treated with alemtuzumab (a type of **antibody therapy**) should have irradiated blood products for the rest of their lives.

Your medical team should tell you if you need irradiated blood or blood products. They will also mark your medical notes and tell the hospital blood bank. You should be given an alert card to carry in case you attend another hospital and need blood in the future.

What happens if I need an emergency blood transfusion?

If you need a blood transfusion as an emergency, there might not be time to order irradiated blood. In this case, the doctors treating you make a judgement on whether to give you non-irradiated blood or to wait for irradiated blood to be prepared. They balance the very low risk of developing TA-GvHD against the risks of delaying your transfusion.

References

The full list of references for this page is available on our website. Alternatively, email **publications@lymphoma-action.org.uk** or call 01296 619409 if you would like a copy.

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